

Please amend the Application as follows.

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings of claims in the application.

Claim 1. (Currently Amended) ~~Cellulose~~ A cellulose derivative having gel-like rheological properties in aqueous solution, characterized in that said cellulose derivative being prepared by a process comprising:

- a) alkalizing cellulose is ~~alkalized~~ with aqueous alkali metal hydroxide in the presence of a suspension medium, thereby forming an alkalized cellulose;
- b) reacting the alkalized cellulose ~~is reacted~~ with one or more alkylene oxides~~[[,]]~~;
- c) reacting the alkalized cellulose of step (b) ~~then reacted~~ with an alkyl halide present in the suspension medium;
- d) reacting subsequently or simultaneously with step (c) the alkalized cellulose of step (c) ~~is reacted~~ with a crosslinking agent in an amount of 0.0001 to 0.05 eq, where the unit "eq" represents the molar ratio of crosslinking agent relative to the cellulose anhydroglucose unit (AGU), thereby forming an irreversibly crosslinked cellulose derivative; and
- e) ~~after if appropriate further addition of~~ optionally adding a member selected from the group consisting of alkali metal hydroxide, ~~and/or~~ alkylating agent and combinations thereof;[[,]]
- f) optionally separating the ~~resultant~~ irreversibly crosslinked cellulose derivative ~~is separated off from the resultant~~ reaction mixture~~[[,]]~~; and

- g) optionally ~~purified and dried~~ purifying and drying the isolated  
irreversibly crosslinked cellulose derivative.

Claim 2. (Currently Amended) ~~Cellulose~~ The cellulose derivative according to of Claim 1[[,]] ~~characterized in that~~ wherein the crosslinking agent is at least one member selected from the group consisting of ~~or more~~ bifunctional reagents.

Claim 3. (Currently Amended) ~~Cellulose~~ The cellulose derivative according to of Claim 1[[,]] ~~characterized in that~~ wherein the crosslinking agent is epichlorohydrin.

Claim 4. (Currently Amended) ~~Cellulose~~ The cellulose derivative according to of Claim 1[[,]] ~~characterized in that~~ wherein the cellulose derivative has a the rheological profile in aqueous solution ~~of the cellulose derivative is characterized in that the~~ in which the linear viscoelastic material functions storage modulus  $G'$  and loss modulus  $G''$  of a solution of 1.5 to 2.0 parts by weight of the cellulose derivative per 100 parts by weight of solution at a temperature of  $20^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , and when water without further additives is used as solvent, in the range of angular frequency  $\omega$  of  $0.1 \text{ s}^{-1}$  to  $1 \text{ s}^{-1}$ , are a function of the angular frequency wherein the exponents  $n$  and  $m$  of the relationships:

$G' \propto \omega^n$  (storage modulus is proportional to the angular frequencies of the power  $n$ )

and

$G'' \propto \omega^m$  (loss modulus is proportional to the angular frequency to the power  $m$ )

are approximately identical, where for the cellulose derivative ~~of this invention~~ the ratio of  $n$  to  $m$  is from 0.80 to 1.20.

Claim 5. (Currently Amended) ~~Cellulose~~ The cellulose derivative according to of Claim 4[[,]] ~~characterized in that~~ wherein the linear viscoelastic material functions are

~~determined relative to 1.5 to 2.0 parts of said cellulose derivative per 100 parts by weight of a solvent comprising storage modulus  $G'$  and loss modulus  $G''$  of a solution of 1.5 to 2.0 parts by weight of the cellulose ether per 100 parts by weight of solution at a temperature of  $20^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , and when a solvent of 98 parts by weight of water and 2 parts by weight of sodium hydroxide per 100 parts by weight of solvent is used, in the range of angular frequency  $\omega$  from  $0.1\text{ s}^{-1}$  to  $1\text{ s}^{-1}$ , are a function of the angular frequency wherein the exponents  $n$  and  $m$  of the relationships:~~

~~$G' \propto \omega^n$  (storage modulus is proportional to the angular frequencies of the power  $n$ )~~

~~and~~

~~$G'' \propto \omega^m$  (loss modulus is proportional to the angular frequency to the power  $m$ )~~

~~are approximately identical, where for the cellulose ethers of this invention and the ratio of  $n$  to  $m$  is from 0.80 to 1.20.~~

Claim 6. (Currently Amended) ~~Cellulose~~ The cellulose derivative according to either of Claims 4 or 5[[,]] characterized in that wherein the selection of the solvent from,

A[[:]] water

or

B[[:]] 98 parts by weight of water and 2 parts by weight of sodium hydroxide per 100 parts by weight of solvent

has only a slight effect on the ratio of the two exponents  $n$  and  $m$ , where the difference between the ratio of  $n$  to  $m$  in solvent A and the ratio of  $n$  to  $m$  in solvent B under otherwise identical conditions is less than 20 of 100 of the mean of the ratio of  $n$  to  $m$  in solvent A and the ratio of  $n$  to  $m$  in solvent B.

Claim 7. (Currently Amended) ~~Cellulose~~ The cellulose derivative according to of Claim 1[[,]] characterized in that wherein the cellulose derivative is selected from the

group consisting of a hydroxyethyl cellulose derivative, a methyl cellulose derivative, a methylhydroxypropyl cellulose derivative, ~~or~~ and a methylhydroxyethyl cellulose derivative.

Claim 8. (Currently Amended) ~~Process A~~ process for preparing a cellulose derivative ~~according to Claim 1~~ having gel-like rheological properties in aqueous solution, comprising:

- a) alkanizing cellulose with aqueous alkali metal hydroxide in the presence of a suspension medium;[[,]]
- b) reacting the alkalized cellulose with one or more alkylene oxides, thereby forming an alkalized cellulose;[[,]]
- c) ~~then~~ reacting the alkalized cellulose of step (b) with an alkyl halide present in the suspension medium
- d) reacting subsequently or simultaneously with step (c) ~~reacting~~ the alkalized cellulose of step (c) with a crosslinking agent in an amount of 0.0001 to 0.05 eq, where the unit "eq" represents the molar ratio of crosslinking agent relative to the anhydroglucose unit (AGU) of the cellulose used, thereby forming an irreversibly crosslinked cellulose derivative; and
- e) ~~after if appropriate, further addition of~~ optionally adding a member selected from the group consisting of alkali metal hydroxide, ~~and/or~~ alkylating agent[[,]] and combinations thereof;
- f) optionally separating off the ~~resultant~~ irreversibly crosslinked cellulose derivative from the reaction mixture[[,]]; and

- g) optionally purifying and drying the isolated irreversibly crosslinked cellulose derivative.

Claim 9. (Currently Amended) ~~Process according to~~ The process of Claim 8[[,]] ~~characterized in that,~~ wherein in step a), the cellulose is alkalized using aqueous

alkali metal hydroxide in the presence of a suspension medium ~~which comprises~~ comprising alkyl halide in ~~the~~ an amount calculated from the following formula:

[equivalents of alkali metal hydroxide per AGU minus 1.4]

to

[equivalents of alkali metal hydroxide per AGU plus 0.8],

and in step e) alkyl halide is added in an amount which is at least the difference between the number of equivalents of alkyl halide per AGU already added and the total amount of alkali metal hydroxide per AGU added, where this amount is a minimum of 0.2 equivalents per AGU, and, optionally, further alkali metal hydroxide.

Claim 10. (Currently Amended) ~~Process according to~~ The process of Claim 8[[,]] ~~characterized in that~~ wherein the alkyl halide is methyl chloride.

Claim 11. (Currently Amended) ~~Process according to~~ The process of Claim 8[[,]] ~~characterized in that~~ wherein the crosslinking agent is dissolved in solvent selected from the group consisting of methyl chloride ~~or~~ and a mixture of methyl chloride[[/]] and dimethyl ether ~~mixture~~.